

1. (Presently Amended) A process for producing a substantially crystalline graphitic nanofiber wherein at least a portion of which are comprised of separate and non-continuous graphite sheets that are substantially parallel to the longitudinal axis of the nanofiber, which process comprises reacting a mixture of CO/H₂ in the presence of a catalyst selected from the group consisting of Fe, Fe:Cu bimetallic, and Fe:Ni bimetallic powder catalysts for an effective amount of time at a temperature from about 625°C to about 725°C.
2. (Canceled) ~~The process of claim 1 wherein said nanofibers are characterized as having separate and non-continuous substantially graphite sheets.~~
3. (Canceled) ~~The process of claim 1 wherein said nanofibers are characterized as having continuous substantially graphite sheets forming a non-cylindrical multifaceted tubular structure.~~
4. (Original) The process of claim 1 wherein the catalyst is an Fe:Cu bimetallic wherein the ratio of Fe to Cu is from about 1:99 to about 99:1.
5. (Original) The process of claim 4 wherein the ratio of Fe to Cu is from about 3:7 to about 7:3
6. (Original) The process of claim 5 wherein the ratio of Fe to Cu is about 7:3 and the temperature is about 650°C.
7. (Original) The process of claim 1 wherein the catalyst is an Fe:Ni bimetallic wherein the ratio of Fe to Ni is from about 1:99 to about 99:1.
8. (Original) The process of claim 7 wherein the ratio of Fe to Ni is from about 3:7 to about 7:3
9. (Original) The process of claim 1 wherein the ratio of CO to H₂ is from about 95:5 to about 5:95.

10. (Original) The process of claim 9 wherein the ratio of CO to H₂ is from about 80:20 to about 20:80.
11. (Original) The process of claim 5 wherein the ratio of CO to H₂ is from about 80:20 to about 20:80.
12. (Original) The process of claim 6 wherein the ratio of CO to H₂ is about 80:20.
13. (Original) The process of claim 1 wherein the crystallinity of the nanofiber is greater than about 98%.
14. (Original) The process of claim 5 wherein the crystallinity of the nanofiber is greater than about 98%.
15. (Original) The process of claim 1 wherein the particle size of the bimetallic powder is from about 0.25 nanometer to about 5 micrometer.
16. (Original) The process of claim 14 wherein the particle size of the bimetallic powder is from about 2.5 nanometers to about 1 micrometer.
17. (Original) The product produced by the process of claim 1.
18. (Original) The product produced by the process of claim 6.
19. (Original) The product produced by the process of claim 12.